Incidence data are presented describing an epidemic of heroin addiction among Negro youth in Chicago following World War II. The epidemic reached its peak in 1949 and declined during the early 1950s. This report examines the effects of a variety of societal control measures on the epidemic's decline, and the implications of the findings for addiction control programs.

The Natural History of a Heroin Epidemic

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Introduction

Chicago's Negro community experienced a serious epidemic of heroin addiction shortly after World War II.[1] In a previous report,[2] we presented data suggesting that the epidemic reached its peak in 1949. During the early 1950s the number of new cases (incidence) declined substantially, although the number of active addicts (prevalence) remained high. Low incidence of new cases continued into the 1960s.

The present study attempts to explain the decline of this epidemic by examining local enforcement practices and arrest rates, court sanctions and legislation, and cost and quality of heroin during that period. Unfortunately, no major public health or educational programs were launched to contain this epidemic. Some of our findings, however, do bear on the design of such programs.

Method

Incidence data presented in this paper were obtained from Illinois Drug Abuse Program admission questionnaires. The sample consisted of all Negro narcotic addicts entering treatment between May, 1969, and September, 1970. We chose to define incidence as date of first heroin use, primarily because our addict patients were better able to recall this event than the date they became addicted. This definition of incidence also helps resolve other methodological issues. For example, does the disease begin at the time of first heroin use, with the onset of withdrawal symptoms, or merely with regular use? Furthermore, some of the drugs abused by our sample do not produce physical dependence. For our purposes, then, date of first use provided a uniform standard for examining the sequence of drug use over time. We note that DeAlarcon,[3] also applying infectious disease concepts to the spread of heroin, independently arrived at a similar definition of incidence.

Historical data were obtained through interviews with addict patients, the former director of the narcotic division of the Chicago Police Department, and other professional people who were active during the period of the epidemic and its decline. We also examined Illinois state legislative hearings on drug laws, Chicago Police Department annual reports, Cook County court records, Federal Narcotics Bureau laboratory analyses of narcotic seizures, and microfilm copies of the *Chicago Tribune*. Because a variety of informational sources were used, a brief description of the specific methods will accompany presentation of the data.

An Historical Account

Dai's[4] description of Chicago narcotic addicts during the early 1930s indicated that only about 17% were Negro. At that time the majority of narcotic users smoked opium and only 13% injected heroin. Reliable addict patients tell us that prior to World War II there was limited heroin use in several of Chicago's Negro neighborhoods. They also recall considerable opium smoking in Chinatown, but this involved few Negroes.

World War II disrupted the international heroin and opium trade. Addicts were forced to turn to drugstores and physicians for narcotics. During the war, however, domestic marijuana was readily available in the Negro community. Usage was apparently widespread, and in 1945 Illinois passed legislation increasing the penalties for marijuana possession. Laws controlling heroin were not changed so that, ironically, possession of marijuana became a more serious offense than possession of heroin or other hard narcotics.

Immediately following World War II, older patients describe the onset of a poly-drug epidemic among teenage Negroes in association with a hip youth culture which included jazz musicians and well-known entertainers. Night spots on Chicago's Negro South Side were swinging places for conventioneers and local well-to-do whites. Marijuana and heroin were part of this hip scene, and the lyrics of popular songs contained thinly disguised references to drugs. Heroin was cheap and of high quality, its hazards were not visible or known to new users, and legal penalties were not severe. During the late 1940s cocaine use also became more widespread. As one observer pointed out, heroin use spread from street corner to street corner very much like an infectious disease epidemic. Finestone[5] gives a particularly vivid account of the life style of these young addicts and the social processes involved in heroin spread. Abrams et al.[6] describe the changing characteristics of individuals involved in the epidemic, pointing out that young addicts of the 1940s were hip, street-wise, non-delinquents, whereas the later stages tended to affect youth with prior histories of delinquency.

Documenting the Epidemic

Figure 1 portrays the incidence of first heroin use in a sample of Negro addicts applying for treatment in the Illi-

nois Drug Abuse Program. Nearly identical incidence trends were obtained from two other independent samples of Negro addicts. The first sample consisted of 91 active street addicts, the second, of 123 methadone patients.[2] Although Figure 1 includes some subjects from these earlier samples, the consistency of the incidence trends leaves little doubt as to the reliability of the findings.

Figure 1—Incidence of First Heroin Use in a Negro Patient Sample—A 3-Year Moving Average

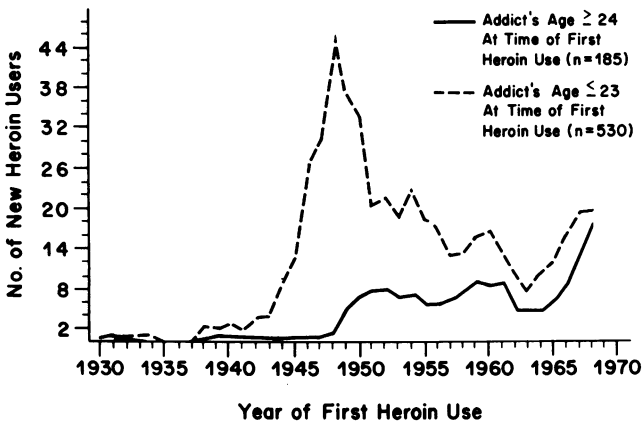


Figure 1 shows that the rapid increase in incidence came to a halt after 1949. Although the decline in incidence was not as dramatic as the rise, the downward trend first observed in 1950 continued in subsequent years. While our samples of post-war addicts approximate only 900, other accounts suggest that the epidemic produced between five and ten thousand new addicts.[1,7]

One notes the upward slope of the incidence curve in recent years. Although this trend was found in all three samples, it does not necessarily indicate the onset of a new epidemic. For example, we would expect a gradually accelerating incidence curve as we approach the present even if Chicago's Negro community produced the same number of new heroin addicts each year because older addicts are more likely to be underrepresented as a result of death, imprisonment, treatment or "maturing out." Conversely, if another epidemic is occurring, several years might pass before the new, young addicts begin to seek treatment in significant numbers.

Although we have not presented incidence curves for marijuana and cocaine, our data suggest that this was in reality a poly-drug epidemic. Apparently, the epidemic began with marijuana use, followed by heroin, and then cocaine. For example, in a sample of 302 treatment applicants who were involved in the epidemic, first marijuana use preceded first heroin use by approximately three years, (mean = 1945 versus 1948 respectively), whereas first use of cocaine occurred approximately two years later (mean = 1950). One must realize that this study focuses on the spread of only one drug in a poly-drug epidemic, and that our sample was limited to those participants available to us 20 years later as chronic heroin addicts seeking treatment.

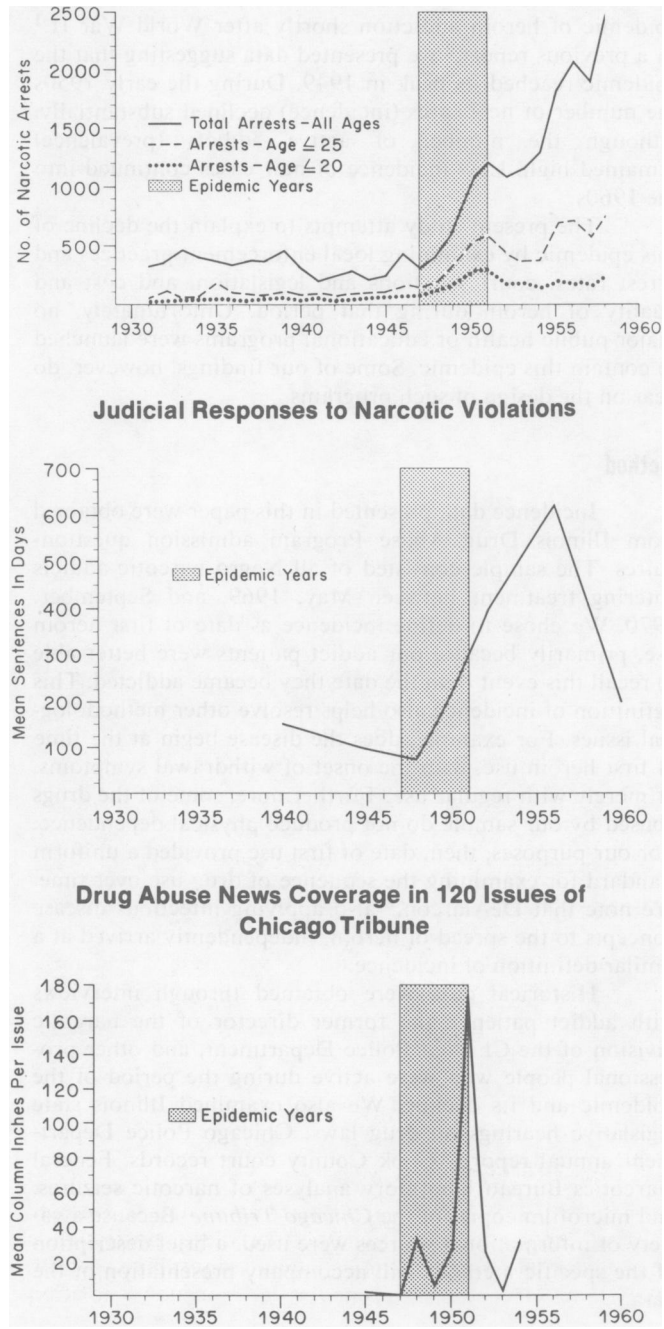
The Enforcement Response

As the epidemic moved into full swing, we observe an increased number of "narcotic" arrests (Figure 2). These data, obtained from the Annual Statistical Reports of the Chicago Police Department from 1931 through 1958, unfortunately include arrests not only for heroin and the hard narcotics but also for the soft drugs such as marijuana. Apparently no reports were issued between 1959 and 1963.

The arrest data show a marked increase in charges against young drug users between 1948 and 1951, which is

Figure 2—Societal Responses to the Heroin Epidemic

Chicago Police Department Annual Reports



consistent with the dramatic growth in the size of the young addict population. The next significant increase in narcotic arrests occurred between 1955 and 1958. Arrests in this period, however, fell largely in the above 25 age group. This suggests that the young people originally involved in the epidemic continued to be arrested as they grew older and were not replaced by large numbers of new adolescent addicts. The dramatic increase in arrests in the middle 1950s almost exclusively affected Negro drug users; e.g., between 1953 and 1958 the Negro-white arrest ratio for narcotic offenses averaged nearly 7:1.

It is likely that the increased number of narcotic arrests in 1949 and 1950 reflected a marked increase in the total number of addicts who could be arrested, rather than an enforcement response to contain the epidemic. Addict patients report that during the early phase of the epidemic many patrolmen did not even recognize the white powder as heroin because the drug had not been widely used prior to that time. They indicated that patrolmen would take the powder from them, empty it on the ground, and send them home. They claim that the few officers who were knowledgeable about drugs were all too frequently corruptible. Furthermore, the City of Chicago Narcotics Bureau was apparently manned by only six to eight full-time officers until 1951, when a new director was assigned to organize an all-out crackdown on the drug problem. During the next year, the Chicago narcotics force was expanded to 60 officers in the central bureau and 60 more in the local precincts. A standard record-keeping system was initiated for narcotic arrests, and all addict defendants were sent to the central bureau for interrogation. Users received lighter sentences or had charges dismissed if they would "inform" and help police arrest drug dealers. The result was a heavy and systematic police crackdown on the entire heroin addict population. By 1953, the police had effectively penetrated local drug distribution hierarchies, and it was no longer so "cool" to be a heroin addict or dealer in Chicago. The Cook County and city jails were overflowing to the point where an alcoholic rehabilitation facility was taken over and filled with young addicts.

The heavy and systematic police pressure which began in 1951 and continued through the late 1950s appears to have been an overkill from the point of view of containing the epidemic because incidence was already on the decline. Therefore, it appears to have been a response to the aftermath of the epidemic, i.e., the large numbers or high prevalence of active addicts in the community. This delayed enforcement response might be expected when one recognizes that one or more years may elapse between the peak of an epidemic and its full impact on the crime rates in a given community. For example, one must consider the time that elapses between first heroin use and the development of an expensive habit, as well as the time necessary for a young person to become a skilled hustler.

The Legislative Response

In 1935 Illinois approved the Uniform Narcotic Act, which set identical penalties for illegal possession of marijuana and hard narcotics (opium, morphine, heroin). Between 1945 and 1949, penalties for marijuana violations were greatly increased (for the first possession offense: one to three years imprisonment or a $1000 fine or both). The penalties for possession of hard narcotics were not changed (for the first possession offense: not more than one year in prison or a $1000 fine or both). In 1949, however, the marijuana amendment was repealed and the penalties returned to the 1935 schedule.

In 1951, a bill to increase penalties for possession and sale of marijuana and narcotics was rushed through the state legislature in 37 days. In 1953 penalties were again increased with an additional requirement that narcotic addicts must register and carry identification cards. This was commonly referred to as the "loitering addict law," later ruled unconstitutional by the Supreme Court. In 1954 possession of heroin was made a felony, carrying a two- to ten-year sentence; sale of narcotics was punishable by two years to life imprisonment. In 1957, under the Uniform State Narcotic Act, the penalty for the first offense of marijuana or narcotic possession remained two to ten years and a $5000 fine. A first conviction for sale of these drugs carried a mandatory minimum sentence of ten years.

Note that the heroin epidemic occurred during the same four-year period when repressive legislation was in effect to control increasing marijuana use. Because most addicts involved in the heroin epidemic had previously used marijuana, one might speculate that these sanctions contributed to their shift to a much more dangerous drug, heroin. The more important finding is, again, that the aggressive legislative response was initiated during the period of declining incidence and, therefore, was directed at the aftermath of the epidemic.

The Judicial Response

Because judicial discretion in sentencing is a form of social control distinct from legislation and law enforcement, we also examined the sentences meted out by judges during the epidemic years. Judges' minutes were examined on randomly selected days in every fourth year from 1940 through 1960. The year 1950 was also included. We calculated the mean duration of sentences given to drug violators for selected years (Figure 2). Unfortunately, judges' minutes did not distinguish between violations for marijuana, cocaine and the hard narcotics. Prior to 1951, many narcotic cases were heard in Racket's Court, Branch 27; and our samples for those years were obtained from these records. In 1951, a special Narcotics Court was organized in Branch 57 of the Municipal District Court. After 1951, then, our data were obtained from the records of the new court.

Our data do not permit us to determine the percentage of convictions for narcotic offenses. Furthermore, the subtleties of plea bargaining preclude analysis of charges, since prosecutors tend to reduce charges after the passage of harsh legislation in order to obtain more convictions.[8] Nevertheless, the relatively light sentences in 1948 suggest that judges may not have been aware of the heroin epidemic or conceived of a punitive response to it. The trend toward more severe sentences between 1950 and 1956 is consistent with a mandate to increase penalties. However, we again see the pattern of an excessively punitive response reaching its height several years after incidence rates had begun to decline.

The Therapeutic Response

During this period, a number of attempts were made to offer treatment to narcotic addicts.[9,10] Two hospital wards were opened for narcotic withdrawal, one in the Cook County Jail. Several outpatient counseling clinics were also established. In 1951 legislation was unanimously passed in the Illinois House of Representatives requiring the Department of Public Health to organize and operate outpatient clinics in Chicago. However, the bill was passed too late to be considered by the Senate. There is some question as to how the Senate would have responded, since it rejected a similar bill earlier in the session.

By the mid 1950s, therapeutic responses to the epidemic were largely abandoned because of their uniformly poor results. These early programs, of course, lacked the mainstays of our current treatment technology, namely, urine testing, methadone maintenance and therapeutic communities.

Mass Media Response

Local newspapers were reviewed in an effort to determine whether public awareness of the "bad side" of drugs might have contributed to the epidemic's decline. We were also interested in relating community concern to the massive enforcement response initiated in 1951.

Of Chicago's various newspapers, only the *Chicago Tribune* was available on microfilm for the period of interest. For the years 1945 through 1954, 12 issues per year were read in their entirety for drug news or comment. Issues were selected from the first Monday, Tuesday, and Saturday of March, June, September, and December. The number of articles, column inches, location and content of articles were analyzed.

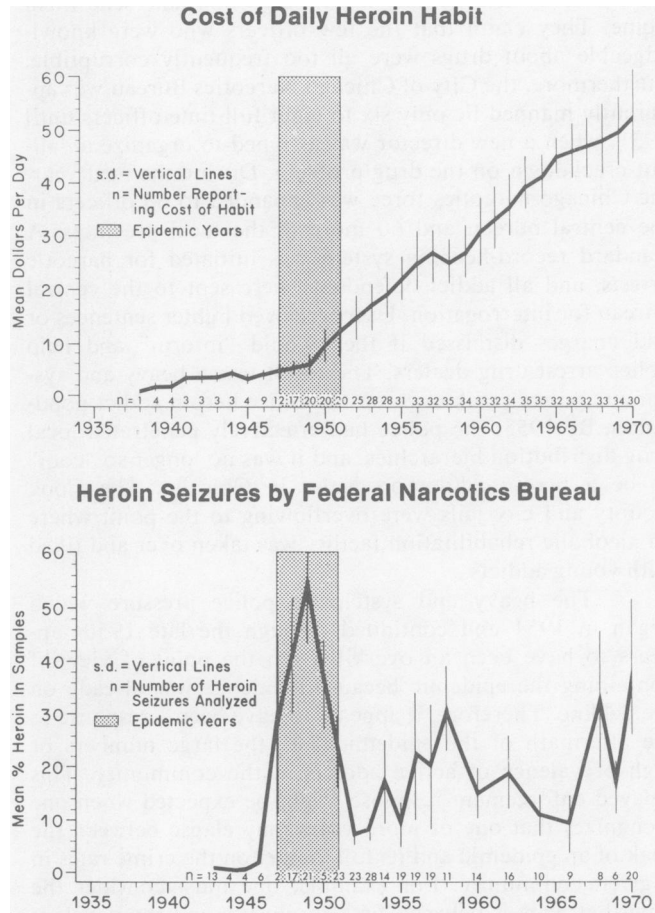
Beginning in 1948, we found reports of arrests of local Negro youth, Hollywood entertainers, and jazz musicians on marijuana charges. There was no mention of heroin or cocaine. The year 1950 witnessed a dramatic increase in drug news coverage, reaching a peak in 1951 (Figure 2). The earlier concern with marijuana shifted to concern with "dope" and "addicts." Reports of arrests for possession of drugs were replaced by accounts of daring and violent crimes committed by addicts. One such article described a young man who held up the patrons of a bar. Taking the bartender as hostage, he ran into the street and hailed a taxi. While holding a gun on the bartender with one hand, he is described as shooting drugs into his arm with the other.[11]

The news media would appear to have recorded the changing character of the drug-using subculture. Their description of the "hip" marijuana user of the early stages was replaced by the "dope fiend" image after the introduction of cocaine, a drug which resembles methamphetamine in that, when taken in large doses, it frequently leads to violent and paranoid behavior. Assuming that news articles are a measure of public awareness, it would appear that between 1950 and 1952 Chicagoans became increasingly aware of the bad side of drugs and particularly of daring crimes committed by addicts. The influence of community awareness on the decline of the epidemic remains an open question. However, the news media may have been partially responsible for the massive enforcement response initiated in 1951.

The Cost of Maintaining a Heroin Habit

Reliable patients agree that the cost and quality of heroin available on the street has always been a factor influencing the spread of addiction. To explore this relationship, we interviewed 35 Negro patients who had been active addicts during the epidemic period. Most subjects were able to recall rather vividly the cost of their daily habits for some, but not all, years. Each subject was represented by several points on a graph indicating his daily drug expenses for a particular year. The points were connected to provide a continuous history, even though the respondent may not have been addicted throughout this time. For each year the mean and standard deviation for cost of daily habits were calculated (Figure 3).

Figure 3—Cost and Quality Variations in the Heroin Market



It appears that a heroin habit could be maintained out of pocket money until 1950, when the price almost doubled from the preceding year to $9 per day. This dramatic rise in cost continues to the present. Total drug expenditures in the late 1940s may have been somewhat higher than the cost of supporting a heroin habit because of the widespread use of cocaine with heroin. Rising drug costs during the 1950s, however, made cocaine use less common. These changes in cost of heroin may have reflected national and international, rather than local, mar-

keting conditions. We note that Preble[12] reports a similar increase in cost of heroin in New York City beginning in 1951. Prior to that time, young Negroes involved in a similar epidemic in that city could support their habits on $2 to $4 per day.[13]

We have observed similar upswings in the cost of heroin in some Chicago neighborhoods experiencing recent outbreaks of addiction, suggesting that such changes in the heroin market may be an intrinsic feature of these epidemics. Thus, during the early contagious phase of an epidemic when heroin use is primarily experimentation, there is no captive clientele requiring a regular drug supply. When a significant number of the experimenters become actively addicted, however, a stable neighborhood distribution system is required. The costs of maintaining such a system are necessarily passed on to the consumer as higher prices, while at the same time permitting dealers increased opportunities to manipulate drug quality.

The sudden rise in the cost of maintaining a heroin habit suggests a second explanation for the dramatic increase in criminal activities reported by the press in 1950 and 1951. One might expect that the rapid conversion of a hip, fun loving, drug abuse subculture into a criminal addict population would be accompanied by an increase in daring, and sometimes outrageous, illegal acts to obtain money.

Quality of Heroin

The influence of drug costs on incidence trends cannot be understood without taking into account drug quality as well. Although local police analyzed drug seizures for the presence of opiates, at that time they did not record the purity of opiates in their samples. However, the Federal Bureau of Narcotics* did analyze drug purity. Their case reports of heroin seizures in Chicago were examined for the years 1943 through 1970 (Figure 3). For each of these years, the first ten case records containing heroin laboratory analyses were selected. In many case records two or more heroin samples were obtained for evidence, so that the number of samples used to calculate average per cent heroin for most years exceeded ten. Regrettably, ten heroin analyses per year were not available for the period 1944 through 1947. Case records suggest that federal enforcement efforts during these years were largely directed at controlling illegal distribution of proprietary and prescription drugs.

The efforts of this federal enforcement agency are directed at the higher levels of drug distribution, so that the seizures analyzed here are presumed to be of higher quality than the heroin available to the addict on the street. Nevertheless, a decrease in quality of heroin seizures was observed during the period of epidemic decline. Although one might speculate on the parallel between increased purity of heroin and rising incidence trends during the late 1940s and the late 1960s, this lies beyond the scope of this paper.

Discussion

Our data delineate a major heroin epidemic among Chicago Negro youth which reached its peak in 1949. Although the epidemic left in its wake a large number of active addicts (high prevalence), the number of new cases declined during the 1950s (low incidence). We found the period of epidemic decline to be closely associated with increasing cost and decreasing quality of heroin available on Chicago's illegal drug market. A dramatic response in the various societal control measures examined—local enforcement practices and arrest rates, court sanctions and legislation, mass media attention to drug abuse—did not occur until a year or more after the epidemic had already begun its decline. Other factors that may have played a part in the epidemic's decline were the end of the post-World War II recession and the onset of the Korean War, events that improved the economy and offered disadvantaged Negro youth increased opportunities in the military service and civilian labor market.

Had we defined incidence as the date of onset of withdrawal symptoms rather than the date of first heroin use, the epidemic's peak would have occurred perhaps a year or more after 1949, thereby showing a closer association between the societal control measures and the epidemic's decline. Thus, we see that the community responded not to the contagious phase of the epidemic but to the phase of increasing prevalence of addiction.

In the initial or contagious phase, heroin spread rapidly. The epidemic quickly reached a peak and was already declining when the community was finally mobilized to control it. One of the important features of heroin epidemics may be this tragic time lag between the contagious stage and the stage when the epidemic's full impact is felt by the host community. In this respect heroin epidemics differ from contagious diseases with short incubation periods, which come to public attention within a matter of days or weeks. During this "incubation-like" period there are few signs to alert the community to a growing heroin problem. Even during the early stage of physical dependence, young heroin users are not yet skilled enough in theft and other illegal activities to exert an appreciable effect upon the economy of the community. Once a community accumulates a sizable population of criminal addicts, however, it feels the burden of maintaining an expensive drug distribution structure. At this stage the community witnesses increasing arrests of new young heroin addicts and begins to identify the nature and extent of the problem. Unfortunately, it now faces the twofold problem of launching prevention programs to halt further spread, and providing rehabilitation services for a large population of active addicts.

If this formulation of the natural history of heroin epidemics is supported by further research, it may provide us with clues to appropriate control measures. For example, it may be more economical and humane for a community to actively intervene during the earliest stages of heroin experimentation by even a few young people rather than be forced to launch drastic and expensive programs a year or more later to deal with a much larger number of chronic addicts.

The emphasis of our study departs from that of most research on incidence and prevalence of addiction, which attempts to explain etiology on the basis of psychological or sociological characteristics of heroin users.[5,6,14] Such frameworks for study, though useful for some purposes, rarely lead to concrete recommendations for planners and

* Since 1968 the functions of this agency have been carried out by the Federal Bureau of Narcotics and Dangerous Drugs.

legislators who are responsible for developing specific proposals for effective control. Kato's[15] description of Japan's successful experience in controlling amphetamine abuse and Klein and Phillips'[16] description of declining incidence of heroin addiction in a New York City neighborhood are notable exceptions.

Although we have focused on heroin, this was only one aspect of a larger poly-drug epidemic starting with widespread marijuana use, followed by the use of heroin and cocaine. The sudden increase in cost of the daily heroin habit in 1950 and the unpredictable behavior associated with cocaine use had the unfortunate effect of reactivating the news media's portrayal of the "dope fiend" as a dangerous, crazed person.[17] This "dope fiend" image may have been partially responsible for the harsh enforcement response, rather than a more balanced enforcement-therapeutic response. It is difficult to define the precise role of the media in this aspect of the epidemic. However, it can be said with some degree of certainty that the sensationalized media coverage of the criminal behavior of drug users did not produce an increase in heroin addiction.

The analogy between this past epidemic and the current drug scene in some communities is striking. The four-year "honeymoon" period from 1945 to 1949 in Chicago has great similarity to the early drug-using subculture of San Francisco's Haight-Ashbury District. Furthermore, the introduction of cocaine in Chicago during the late 1940s resembles the entry of methamphetamine into Haight-Ashbury. In both cases a hip, rather innocent and open drug-using subculture was suddenly converted into a dangerous, criminally-oriented community. An examination of the different stages in the natural history of drug epidemics may have more relevance for future research than the study of individual patterns of drug use. The particular careers of individual drug users might then be viewed as a function of the stage at which they enter the epidemic, rather than a standard progression from one drug to another.

Implications for Research and Treatment Programs

The evidence presented in this paper suggests that the incidence of heroin addiction can follow the course of contagious diseases, fluctuating from periods of epidemic spread on the one hand to relatively quiescent periods on the other. The application of a contagious disease framework to the study of heroin addiction suggests a number of implications for epidemiologic research. First, there is a need to shift emphasis from the psychological characteristics of "diseased" individuals to the specific mechanisms of disease spread. Hopefully, this would lead to improved field methods for monitoring incidence trends over time and for identifying those factors that facilitate and halt spread. Focus on the disease-producing agent and the mechanisms of spread, historically the concern of infectious disease epidemiologists, might bring about increased medical support for international efforts to control availability of this agent. Toward this end, we are currently studying the process of disease spread in several Chicago neighborhoods experiencing recent outbreaks of heroin addiction.

In addition to the implications for research, the acceptance of a contagious disease framework for heroin addiction has a number of consequences for program planning. It should be pointed out that contagious disease control programs differ in several important respects from community mental health programs: 1) Planners appear to treat mental illness as an endemic disorder with fairly stable incidence and prevalence rates for a given community over time. For this reason, personnel and program needs in a given community also remain fairly stable. The incidence and prevalence of a contagious disease, on the other hand, may vary greatly from community to community and from year to year in the same community. Contagious disease control, then, requires that programs be rapidly established in areas of need, and then phased out as the need diminishes. 2) Community mental health programs are not expected to control mental illness. While the mental health system does detain emotionally disturbed individuals who disrupt the community, it does not seek out the mentally ill and coerce them into treatment. Contagious disease programs, however, have a clear mandate for disease control. Protection of the general public from exposure to and infection from actively diseased individuals requires that they be coerced into treatment should they refuse help voluntarily. This notion of coercive treatment is alien to the tradition of community mental health and could be a source of conflict for mental health workers. 3) Contagious disease control programs, in contrast to programs for endemic disorders, frequently require a rapid field team response to contain new outbreaks. Community mental health centers lack specific program elements that might serve this function. Fortunately, however, the history of infectious disease control provides us with a number of models that may contain clues to help us meet these various program needs. Toward this end, we are currently exploring the potential of epidemiologic field teams to perform case finding and treatment outreach functions so that new heroin outbreaks might be quickly and effectively contained.[2,18,19,20]

Summary

Incidence data are presented describing an epidemic of heroin addiction among Chicago Negro youth following World War II. The epidemic reached its peak in 1949 and declined during the early 1950s. In an effort to explain the decline in the number of new cases, we interviewed addicts and enforcement personnel involved in the epidemic and reviewed court and police records, newspaper accounts, and legislative hearings from that period. We found the decline of this epidemic to be most closely associated with decreased quality and increased cost of heroin. The epidemic was already on the decline for at least a year before the community mobilized to control it through punitive legislation, a special narcotics court, and expansion of narcotics enforcement personnel. This failure to respond effectively during the early stages of disease spread may be a characteristic feature of heroin epidemics, and should be considered in the design of addiction control programs.

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